# Tail-f NCS Enables Cloud Network Provisioning

Manage Multi-Vendor Networks from OpenStack

NCS OpenStack Networking Plugin

OpenStack is a cloud operating system that controls large pools of compute, storage, and networking resources throughout a datacenter, all managed through a dashboard that gives administrators control while empowering their users to provision resources through a web interface. NCS provides the ability to provision an entire multi-vendor network in a transactional manner using diverse mechanisms such as NETCONF, REST, CLI, and OpenFlow.

Overview

OpenStack Neutron ML2 plugin

Multi-Vendor Networks

Transaction-Safe

Flexible, Model-Driven
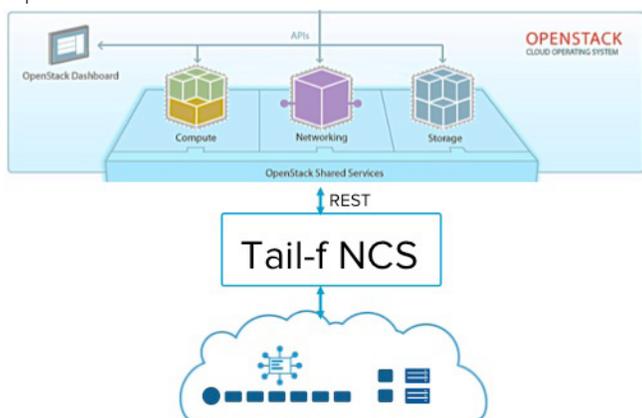
NCS OpenStack plugin permits OpenStack Networking to use NCS to automatically provision a multi-vendor network in response to configuration changes. This will allow OpenStack Networking to utilize the variety of layer 2 networking technologies found in complex real-world data centers.
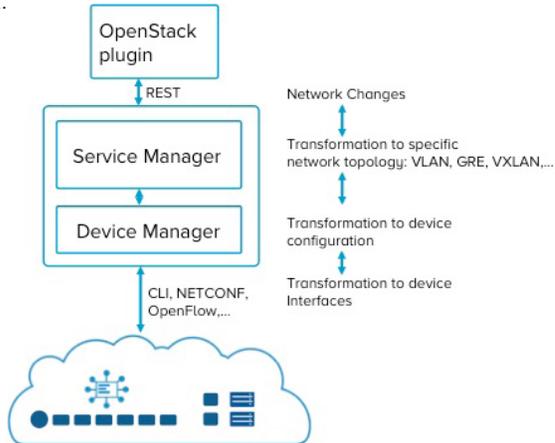
Overview

The NCS Service Manager contains a complete service model of the OpenStack Neutron topology as well as models for the underlying network topologies such as VLAN, GRE, VXLAN. The NCS Device Manager provides device models for the multi-vendor devices in the network.

NCS transforms generic requests from OpenStack into concrete network topologies and finally to the device configuration changes. NCS generates southbound command sequences to the network, using device-specific protocols. The complete chain from the OpenStack network model down to actual devices is managed as one atomic transaction in NCS: either everything goes through or, in case of failure, nothing is changed.

The plugin is built using the new OpenStack Modular Layer 2 (ml2) plugin architecture.

Transformations

From the OpenStack Neutron topology model to network topologies like VLAN

From network topologies to real device interfaces

Features

- Transactions: the plugin delivers OpenStack networking services as true transactions including the devices in the network.

- Model-driven: new network models and mapping to the OpenStack Neutron network model are easily introduced.

- Multi-vendor: NCS manages a multi-vendor network from one OpenStack plugin.

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